Nuclear Inclusions of Tonofilaments and Keratohyalin Granules in the Condyloma Acuminatum

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Summary. Electron-microscopic investigations of the condyloma acuminatum show different nuclear inclusions in keratinocytes of the granular layer or the layer immediately below. Fibrous structures were indentified as tonofilaments and irregularly shaped electron-dense substances as keratohyalin. However the question remains as to whether there is a connection between the viral infection and the occurrence of such intranuclear inclusions.

Key words: Condyloma acuminatum - Nuclear inclusions - Tonofilaments - Keratohyalin granules

Material and Methods

Our electron-microscopic investigation of the cellular changes in human viral warts, especially the condyloma acuminatum (Schlösser 1978), revealed intranuclear structures which have not usually been observed in normal or pathologic keratinocytes. The occurrence of intranuclear keratohyalin, however, is more frequent, as reported briefly by Loch [10].

Material and Methods

The condyloma acuminatum from three different patients was examined. The diagnoses were based on both clinical and histological aspects. Localisation: the perianal region of on or at the penis. The warts
Fig. 1. a Condyloma acuminatum of a 29-year-old man on the glans penis. A keratinocyte immediately below the granular layer is presented. The nucleus contains numerous interlacing and whorled filaments. × 11,900. b Enlarged detail A of Fig. 1a: the tonofilaments form a three-dimensional network as can be recognized by the different section planes. × 57,500. c Enlarged detail B of Fig. 1a. Cytoplasmic tonofilaments of the same cell. × 57,500